CFS-1200L

SERVICE MANUAL

AEP Model

SPECIFICATIONS

Tuner frequency range

	FM	MW	LW	SW
AEP MODEL	87.6—107 MHz	531—1602 kHz	153—281 kHz	5,95—18 MHz
Italian MODEL	87.5—108 MHz	526.5—1606.5 kHz	148.5—283.5 kHz	
Intermediate frequency	10.7 MHz	455 kHz	455 kHz	455 kHz

Antennas: FW/SW: Telescopic
MW/LW: Built-in ferrite bar

Frequency response: 80—8,000 Hz

Speakers: Two way: tweeter 2.7 cm (1-1/8 in.) dia.
woofer 10 cm (4 in) dia.
Impedance: 3.2 ohms

Maximum power output: 5 W (2.5 W + 2.5 W)

Inputs: Two external microphone input jacks (minijack)
sensitivity 0.775 mV for low impedance microphone

Outputs: Headphones jack (stereo minijack)
for 8—300 ohm impedance headphones
Speaker terminals for supplied 3.2 ohm impedance speaker

Power requirements and consumption
Requirements : 220 V AC, 50 Hz
Consumption : 13 W
9 V DC, six R20 (Size D)

Battery life

Batteries	FM recording
Sony SUM-1 (NS)	approx. 20 hours
Sony AM-1 alkaline	approx. 32 hours

Dimensions: Approx. 485 × 216 × 146 mm (w/h/d)
(19-1/8 × 8-5/8 × 5-3/4 inches)
incl. speakers, projecting parts and controls, not incl. handle

Weight: Approx. 3.3 kg (7 lb 5 oz) incl. speakers, batteries

Accessory supplied: AC power cord (1)

Design and specifications subject to change without notice.

Model Name Using Similar mechanism	**CFS-W350L**
Tape Transport Mechanism Type	**MF-1200**

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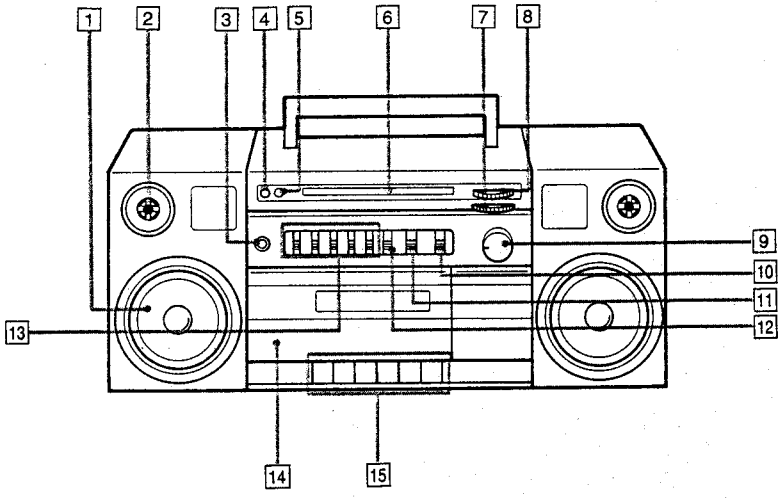
MICROFILM

RADIO CASSETTE-CORDER

SONY®

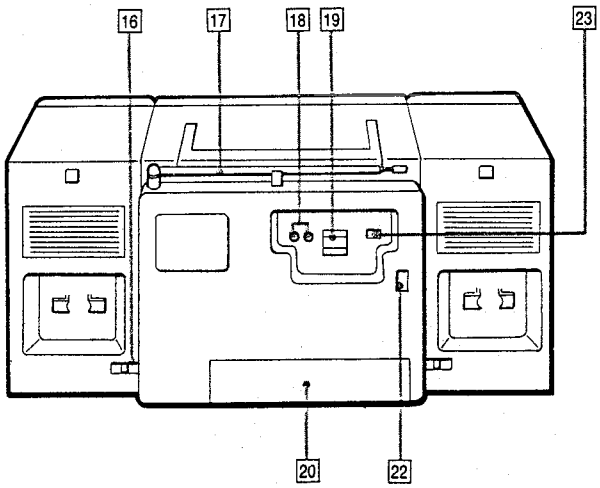
LOCATION AND FUNCTION OF CONTROLS

Front



1 Woofer
2 Tweeter
3 PHONES (headphones) jack (stereo minijack)
4 OPR/BATT (operation/battery) indicator
5 FM STEREO indicator
6 Dial scale
7 TUNING dial
8 FINE TUNING dial
9 VOLUME control
10 BAND selector (FM, SW, MW, LW)
11 FUNCTION selector
12 BALANCE control
13 5 BAND GRAPHIC EQUALIZER controls
14 Cassette holder
15 Tape operation buttons
- II PAUSE
- ■ ▲ STOP/EJECT
- ▶▶ FF (Fast-forward))
- ◀◀ REW (Rewind)
- ▶ PLAY
- ● REC (Record)

Rear



16 Speaker lock
17 Telescopic antenna
18 EXT MIC (external microphone input) jacks
19 SPEAKER terminals
20 Battery compartment
22 AC IN socket
23 ISS/FM MODE switch

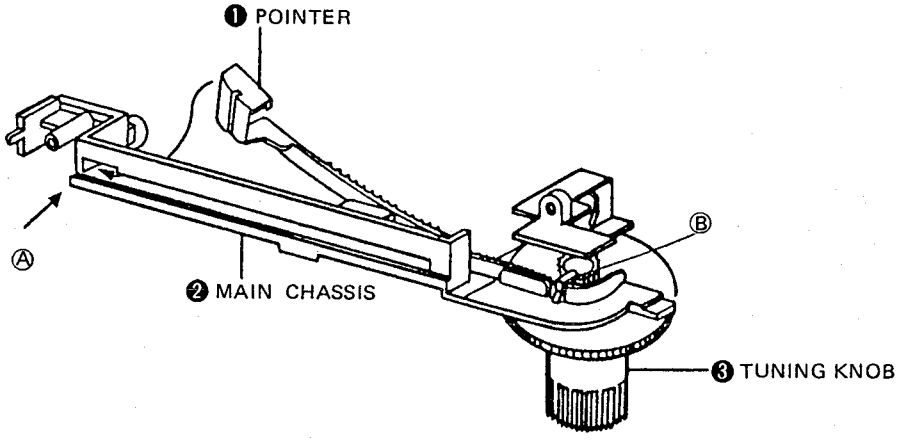
SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1
POINTER SETTING

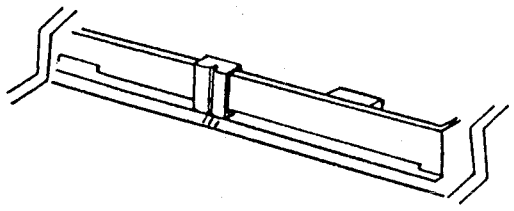
1. Pass the pointer head through hole Ⓐ and hook it on MAIN CHASSIS.
2. Insert the pointer end into clearance Ⓑ between MAIN CHASSIS and TUNING KNOB to mesh.

Fig. 1



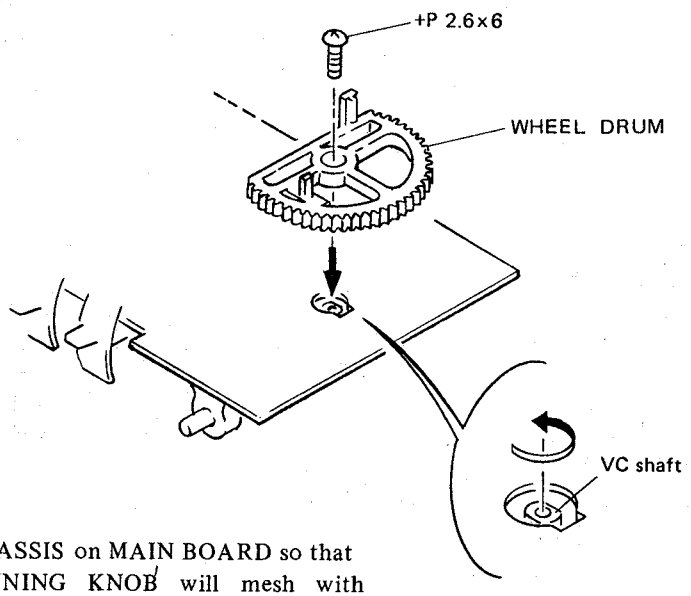
3. Turn TUNING KNOB so that the point mark of the pointer comes to the point-guide center.

Fig. 2



4. Turn the VC shaft in the direction of arrow to the end and fit WHEEL DRUM to VC shaft as shown in Fif. 3.

Fig. 3



5. Mount MAIN CHASSIS on MAIN BOARD so that the gear of TUNING KNOB will mesh with WHEEL DRUM without moving TUNING KNOB and WHEEL DRUM.

SECTION 2
ADJUSTMENTS

TAPE SECTION

2-1. MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab:
   record/playback head erase head
   capstan rubber belts
   pinch roller
   idlers
2. Demagnetize the head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurement

Torque	Torque Meter	Meter Reading
Playback	CQ-102C	30 – 75 g·cm (0.42 – 1.04 oz·inch)
Rewind	CQ-201B	more than 60 g·cm (0.834 oz·inch)
Fast Foward		
Back Tension	CQ-102C	1.5 – 5.5 g·cm (0.021 – 0.076 oz·inch)

Tape Tension Measurement

Meter	Meter Reading
CQ-403A	more than 150 g (5.28 oz)

2-2. ELECTRICAL ADJUSTMENTS

Note: The adjustment should be performed in the order given in this service manual. The adjustments should be performed for both L-CH and R-CH.

- Switches and controls should be set as follows unless otherwise specified.

  FUNCTION: TAPE (RADIO OFF)
  VOLUME: standard output
  BALANCE: mechanical mid
  GRAPHIC EQUALIZER: mechanical mid

- Standard Output Level

output terminal	PHONES	speakers
load impedance	32Ω	3.2Ω
output level	0.25V (-10dB)	0.775V (0dB)

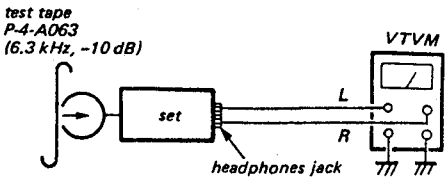
Test tape:

Type	Signal	Used for
WS-48A	3kHz, 0dB	Tape Speed Adjustment
P-4-A063	6.3kHz, -10dB	Azimuth Adjustment
P-4-L300	315 Hz, 0dB	Level Adjustment

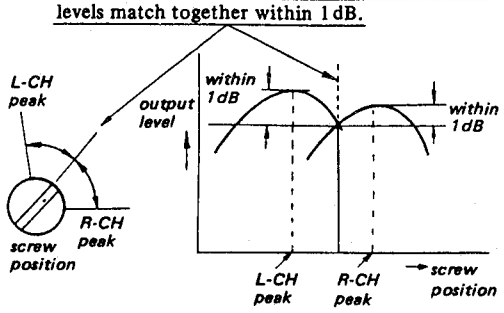
Record/playback Head Azimuth Adjustment

Procedure:

1. Mode: FWD playback

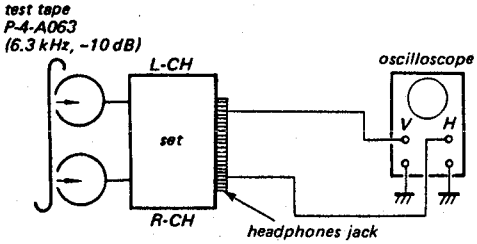


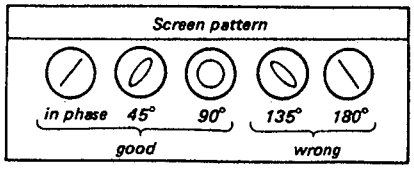
2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1 dB.



Phase Check

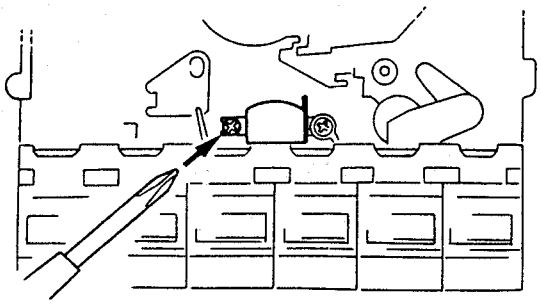
Mode: playback





3. After the adjustment, lock the screws with locking compound.

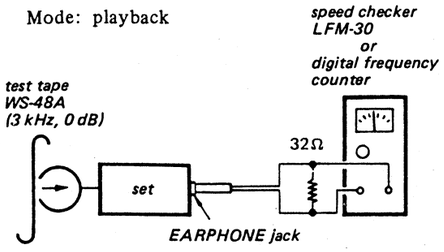
Adjustment Location: Remove the Front Cabinet Assy



Tape Speed Adjustment

Procedure:

Mode: playback

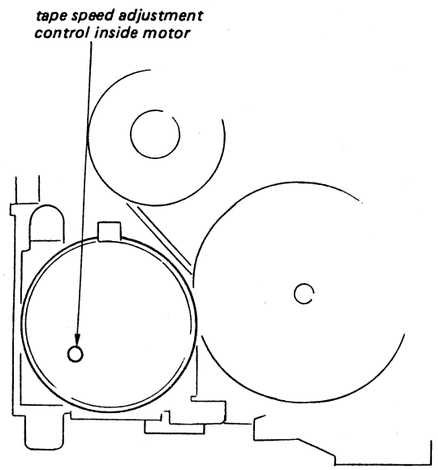


Adjustment value:

Speed checker	Digital frequency counter
±3%	2,910 – 3,090 Hz

Frequency difference between the begining and the end of the tape should be within 1% (30 Hz).

Adjustment Location:

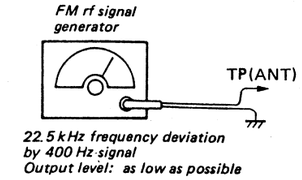


SW FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
TC203	18.5MHz
T0203	5.7MHz

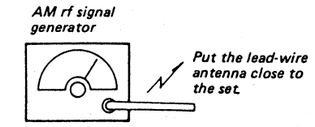
SW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L203	7MHz

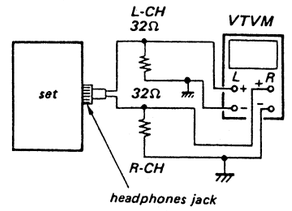
RADIO SECTION

FM Section



AM Section





- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

AM SECTION

AM IF ALIGNMENT	
Adjust for a maximum reading on VTVM.	
T201	455kHz

MW FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
VCT-3	1,680kHz
T0201	515kHz

MW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
VCT-4	1,400kHz
L202	620kHz

LW FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
TC202	300kHz
T0201	145kHz

LW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L201	160kHz
TC204	260kHz

FM SECTION

FM IF ALINMENT	
Adjust for a maximum reading on VTVM.	
T101	10.7MHz

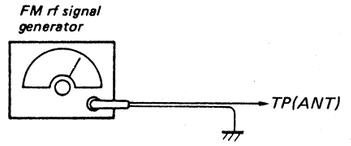
FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
VCT-1	107.8MHz
L102	87.35MHz

FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
VCT-2	107.8MHz
L101	87.35MHz

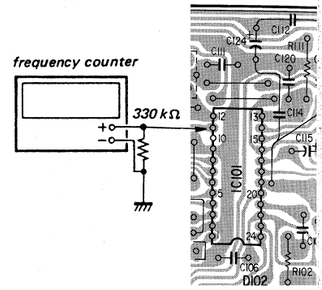
VCO Adjustment

Setting: FM STEREO

Procedure:



Carrier frequency: 98 MHz
Modulation: no modulation
Output level: 562μV (55 dB)

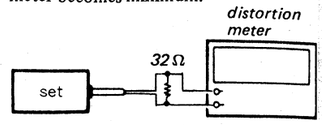


1. Connect frequency counter to IC101 pin (11) using left circuit.
2. Tune the set to 98 MHz.
3. Adjust SVR101 for 76 kHz ±0.2 kHz reading on the frequency counter.

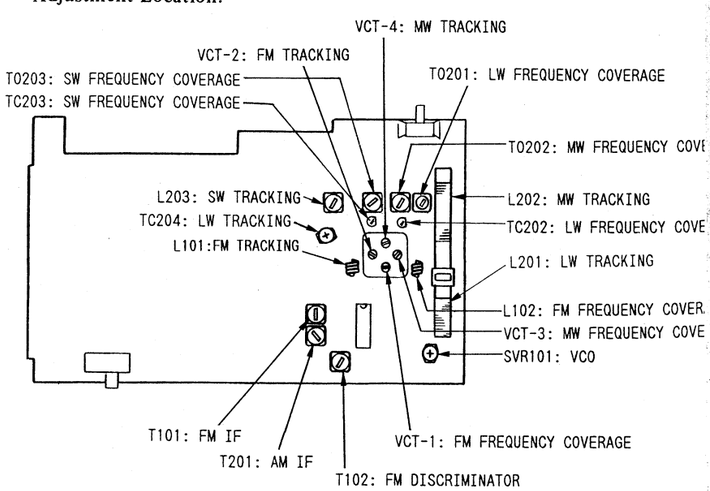
FM Discriminator Adjustment

Carrier frequency: 98 MHz
Modulation: 1 kHz, 75 kHz deviation (100
Output level: 1 mV (60 dB)
Mode: monoural

1. Tune to 98 MHz signal.
2. Adjust T102 so that the reading of the di meter becomes minimum.



Adjustment Location:

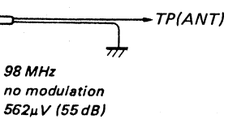


IF ALINMENT	
aximum reading on VTVM.	
	10.7MHz

COVERAGE ADJUSTMENT	
aximum reading on VTVM.	
	107.8MHz
	87.35MHz

CKING ADJUSTMENT	
aximum reading on VTVM.	
	107.8MHz
	87.35MHz

REO



98 MHz
no modulation
562µV (55 dB)

quency counter to IC101 pin (11) using left

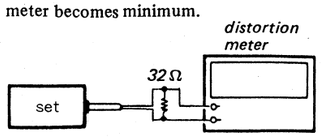
o 98 MHz.

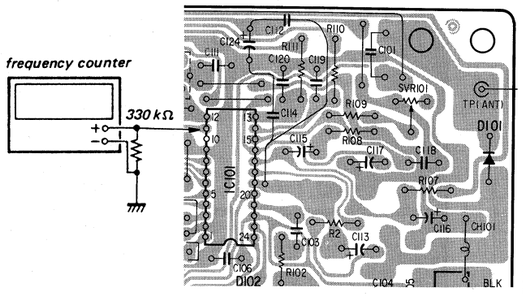
01 for 76 kHz ±0.2 kHz reading on the frequency

FM Discriminator Adjustment

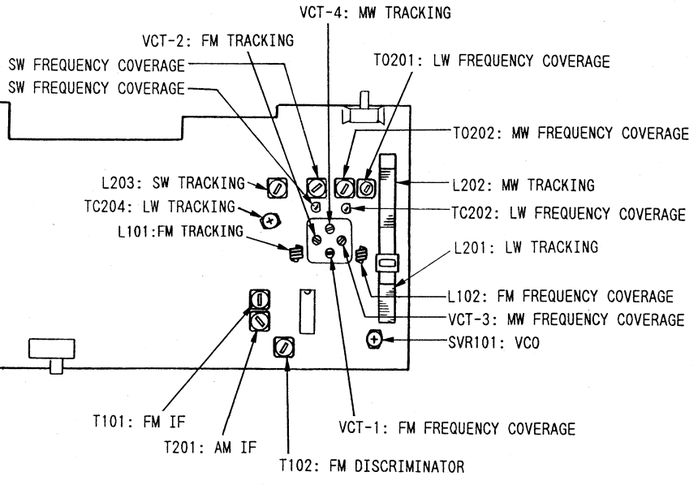
Carrier frequency: *98 MHz*
Modulation: *1 kHz, 75 kHz deviation (100%)*
Output level: *1 mV (60 dB)*
Mode: *monoural*

1. Tune to 98 MHz signal.
2. Adjust T102 so that the reading of the distortion meter becomes minimum.



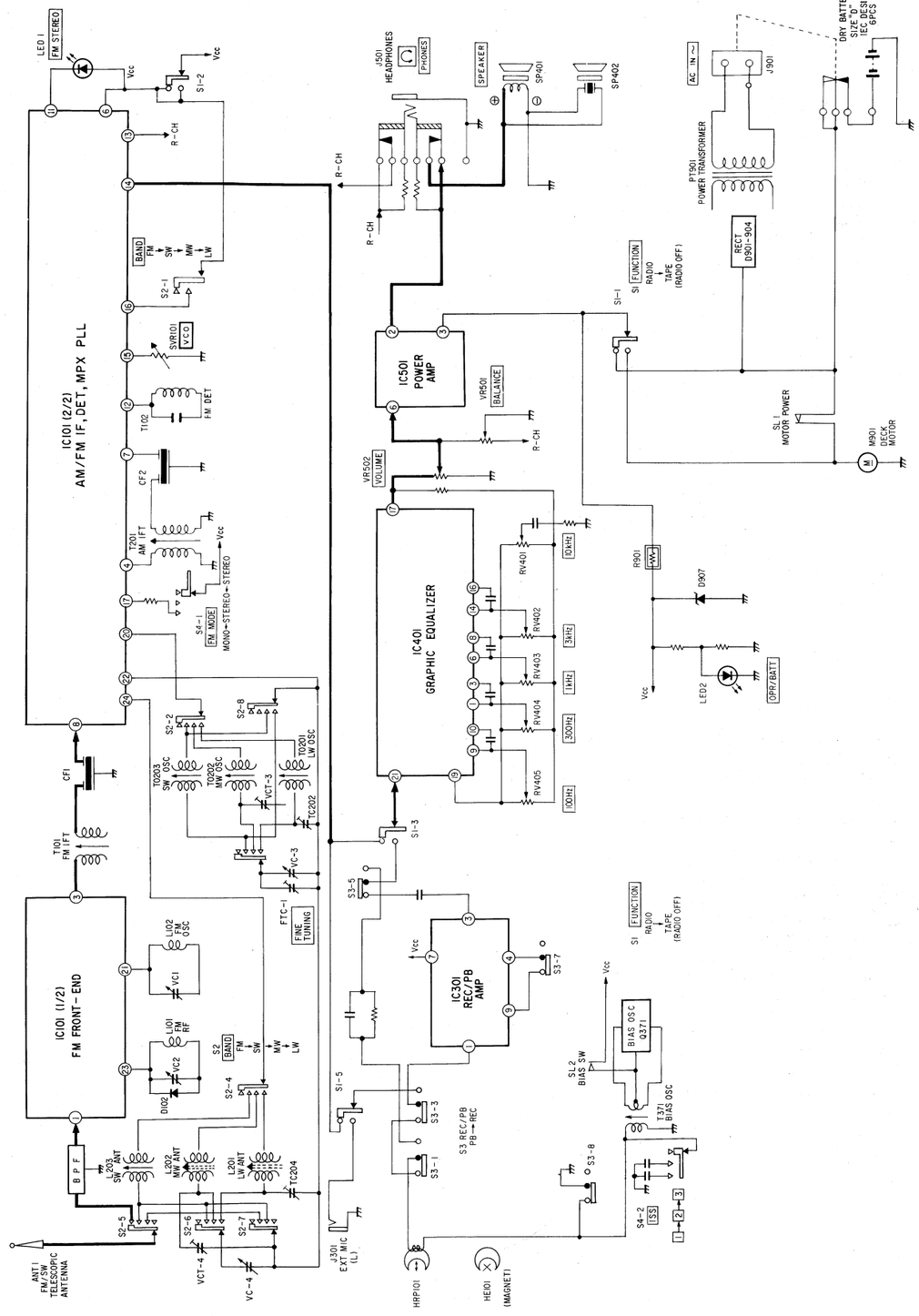


djustment Location:



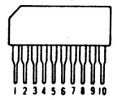
SECTION 3
DIAGRAMS

3-1. BLOCK DIAGRAM

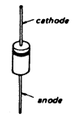


3-2. SEMICONDUCTOR LEAD LAYOUTS

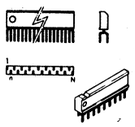
BA3312N



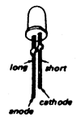
RD6.8FB2
10E2



BA3322LS

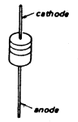


SLP162B



TA7282AP

1SS120



KSC900-L

● **Semiconductor Location**

Ref. No.	Location
D101	C-12
D102	D-11
D901	D-1
D902	D-1
D903	D-1
D904	E-1
D905	C-7
IC101	C-11
IC301	C-8
IC401	H-7
IC501	C-5
Q371	C-6

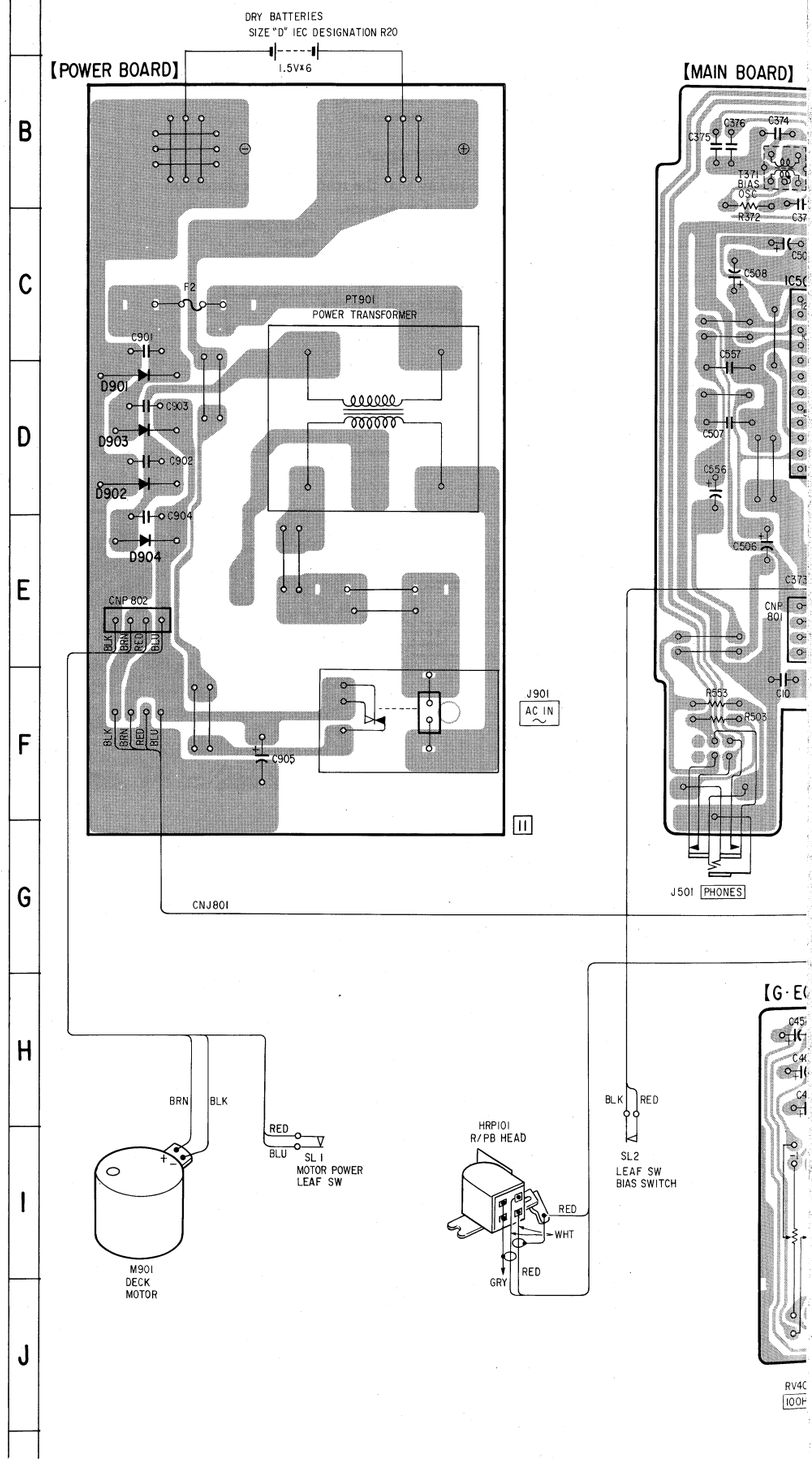
Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- △ : internal component.
- : nonflammable resistor.
- B+ : B+line.
- : adjustment for repair.
- AC voltage readings in the bias oscillator with a VTVM.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark: FM
  ( ) : MW/SW/LW
  < > : PB
  ≪ ≫ : REC
- Voltages are taken with a VOM. (Input inpedance 10MΩ) Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM

Note on Printed Wiring Boards:

- o—— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.

3-3. PRINTED WIRING BOARDS



RDS

IGNATION R20

PT901
ER TRANSFORMER

J901
AC IN

【MAIN BOARD】

SPEAKER
L R
SP402 SP401 SP451 SP452
TM501
L R L R

S4
1SS/FM MODE
MONO←STEREO←STEREO
3← 2← 1

EXT MIC
L J301
R J351

ANT 1
FM/SW
TELESCOPIC
ANTENNA

L201
LW FERRITE-
ROD ANTENNA

L202
MW FERRITE-
ROD ANTENNA

S1
FUNCTION
RADIO
TAPE

S2
BAND
FM
SW
MW
LW

FINE TUNING
FTC-1

VOLUME
VR502

J501, PHONES

MULTI WIRE

【G·EQ BOARD】

RV405
100Hz

RV404
300Hz

RV403
1kHz

RV402
3kHz

RV401
10kHz

VR501
BALANCE

【LED BOARD】

LED 2
OPR/BATT

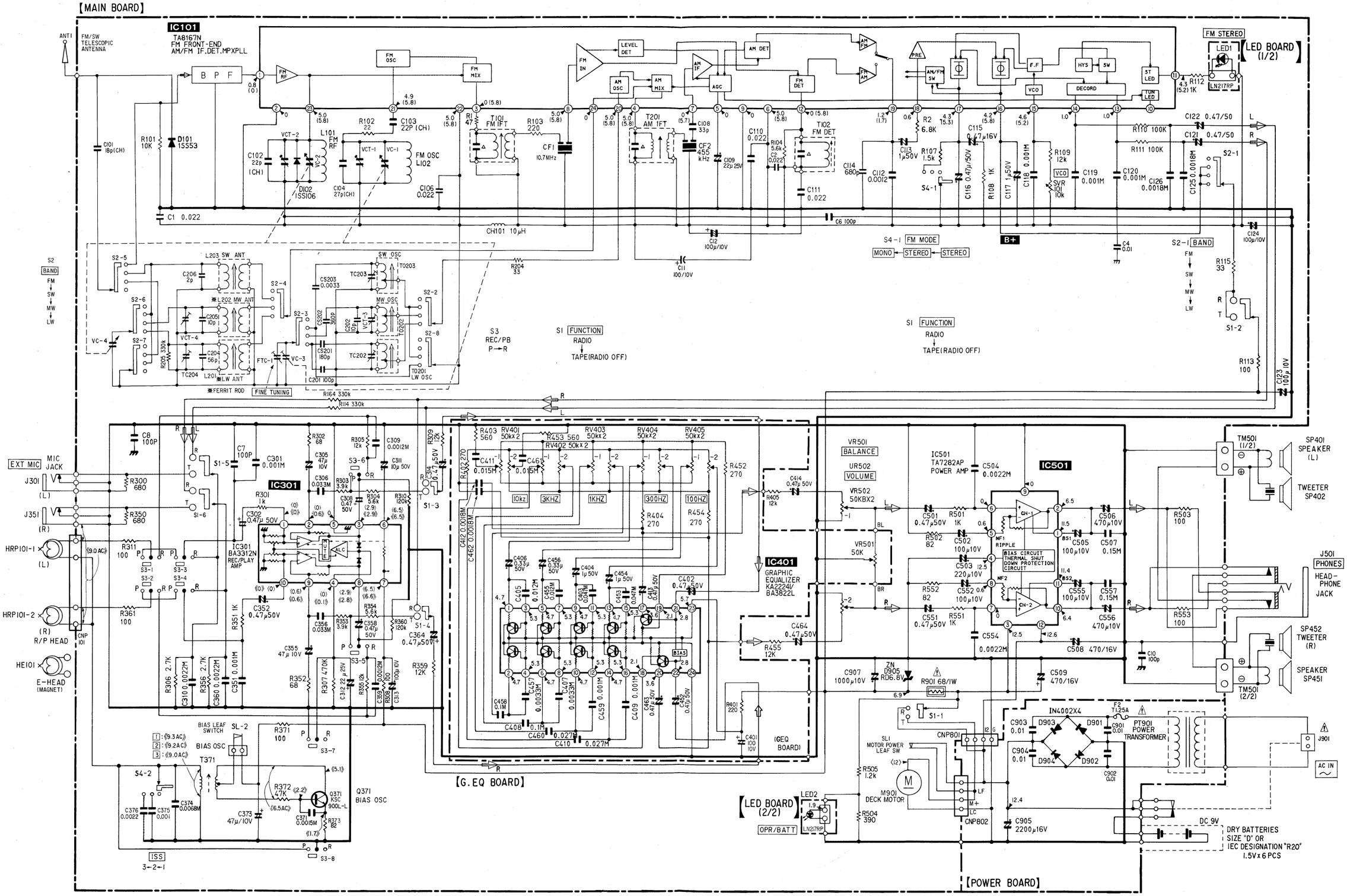
LED1
FM STEREO

HRP101
R/PB HEAD

SL2
LEAF SW
BIAS SWITCH

3-4. SCHEMATIC DIAGRAM ● See page 8 for Note.

【MAIN BOARD】



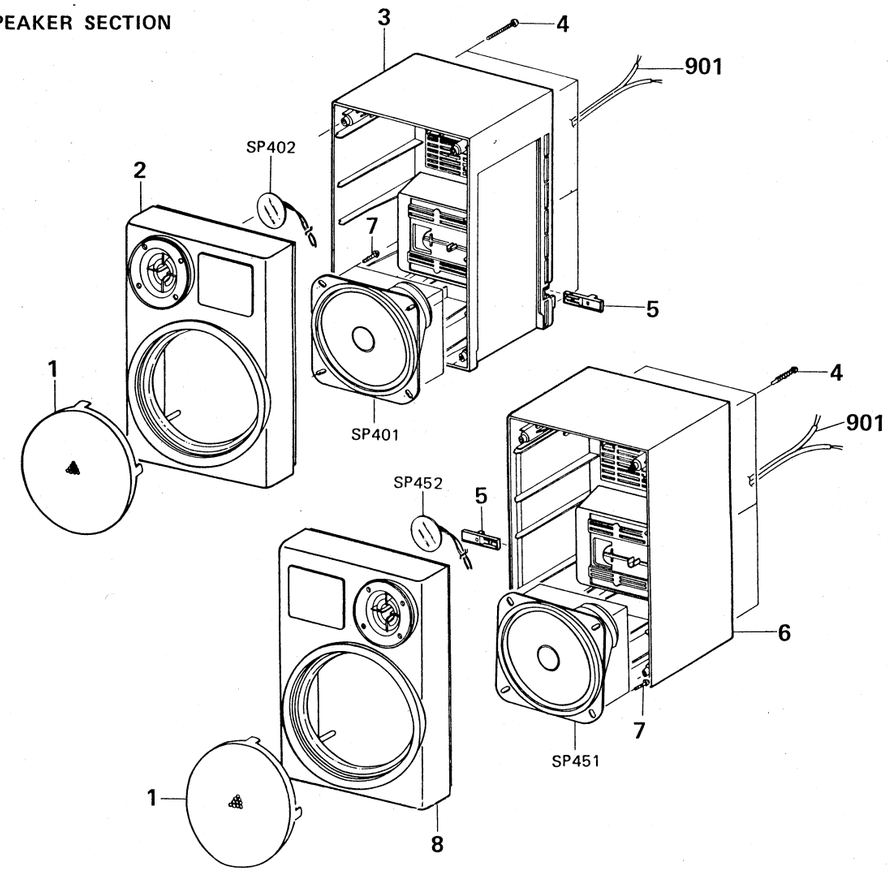
SECTION 4
EXPLODED VIEWS

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts
  Example:
  (RED) . . . KNOB, BALANCE (WHITE)
  ↑ Cabinet's Color ↑ Parts Color

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

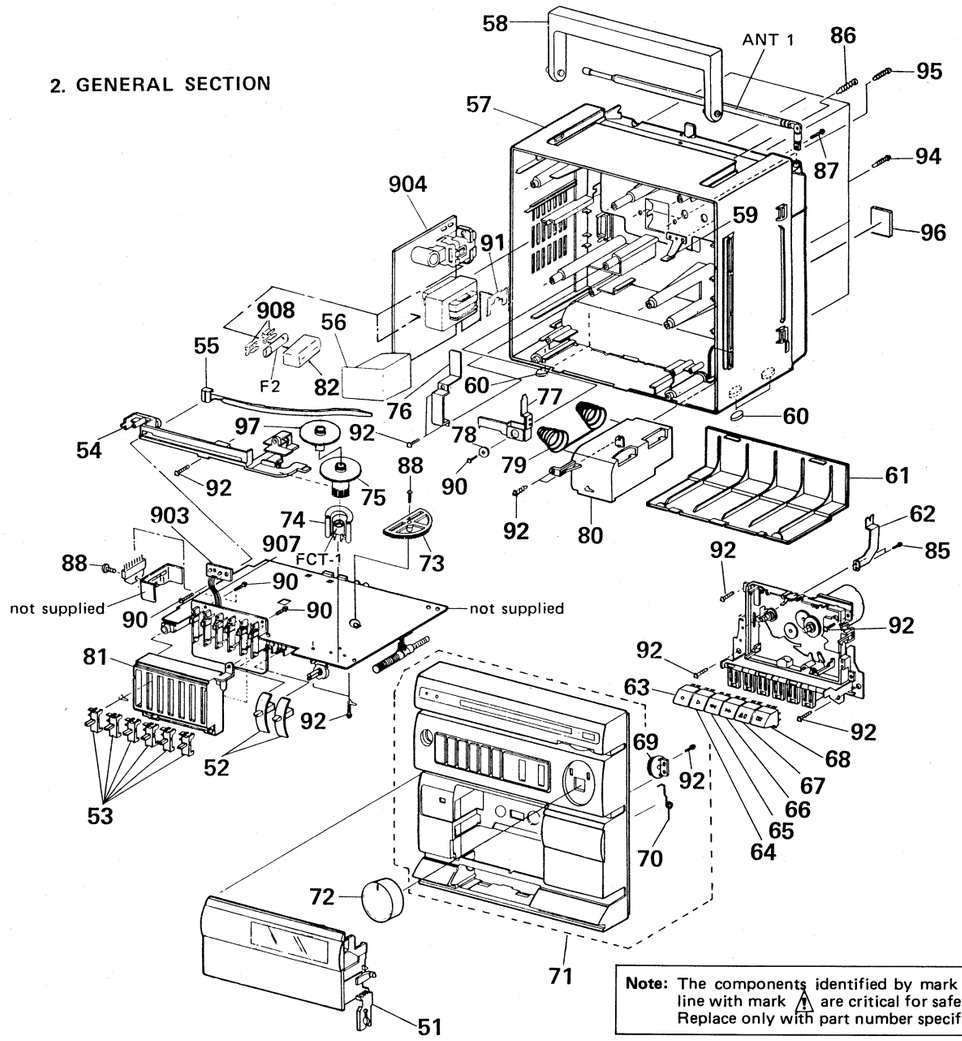
1. SPEAKER SECTION



No.	Part No.	Description	Remarks
1	3-395-244-01	SPEAKER GRILLE	
2	3-395-243-01	SPEAKER FRONT "L"	
3	3-395-245-01	SPEAKER BACK "L"	
4	7-685-651-79	SCREW +BVTP 3X20 TYPE2 N-S	
5	3-393-305-01	HOLDER SPEAKER	
6	3-395-248-01	SPEAKER BACK "R"	
7	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
8	3-395-246-01	SPEAKER FRONT "R"	

No.	Part No.	Description	Remarks
901	1-574-914-11	CORD, SPEAKER	
SP401	1-503-661-11	SPEAKER	
SP402	1-529-051-11	BUZZER	
SP451	1-503-661-11	SPEAKER	
SP452	1-529-051-11	BUZZER	

2. GENERAL SECTION

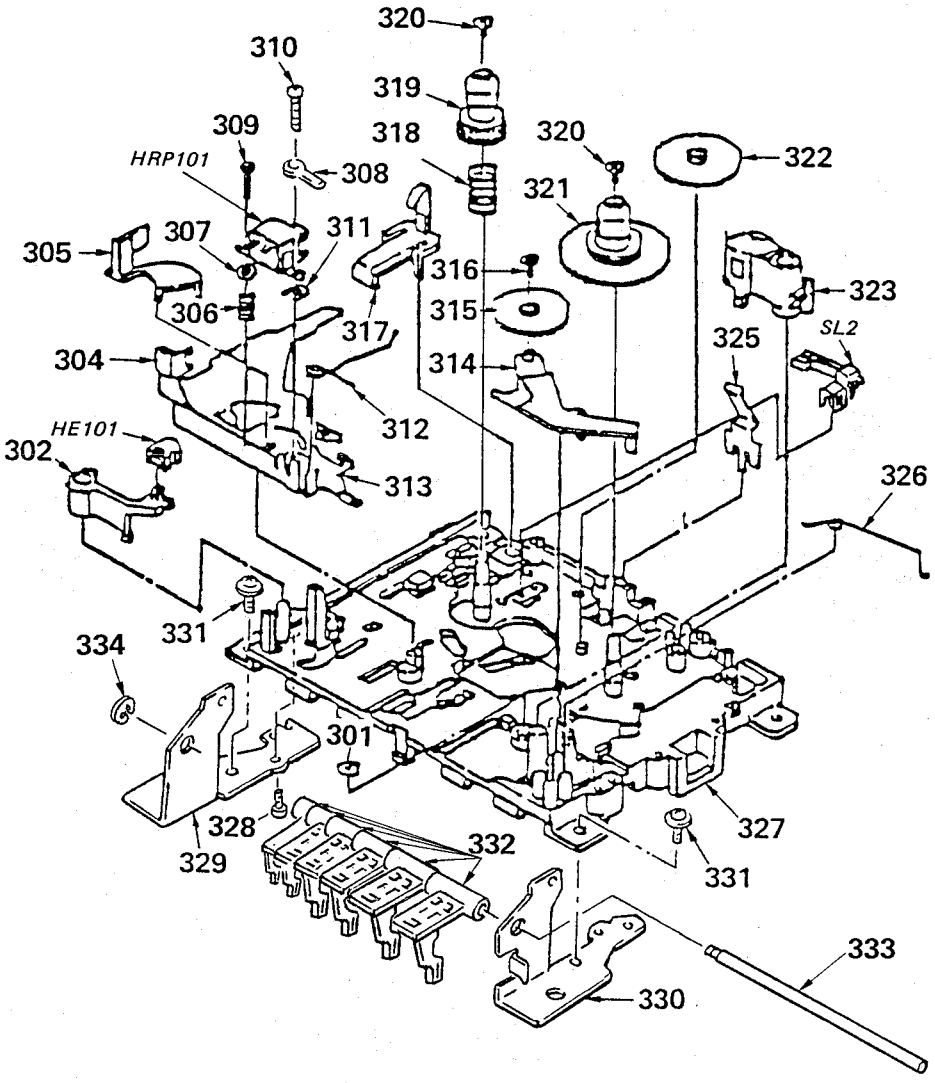


Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

No.	Part No.	Description	Remarks
51	A-3247-406-A	DOOR CASSETTE ASSY	
52	3-395-224-01	KNOB LEVER	
53	3-395-226-01	KNOB EQ	
54	*3-395-219-01	MAIN CHASSIS	
55	3-395-220-01	POINTER	
56	3-395-218-01	SHIELD CAP	
57	3-395-235-01	BACK CABINET	
58	3-395-236-01	HANDLE	
59	*3-395-237-01	BRACKET ANTENNA	
60	3-395-240-01	FOOT RUBBER	
61	3-395-204-01	LID BATTERY	
62	*3-395-228-01	RECORD BRACKET	
63	3-395-229-01	DECK KNOB RECORD	
64	3-395-230-01	DECK KNOB PLAY	
65	3-395-231-01	DECK KNOB REW	
66	3-395-232-01	DECK KNOB FF	
67	3-395-233-01	DECK KNOB STOP/EJECT	
68	3-395-234-01	DECK KNOB PAUSE	
69	3-395-210-01	DAMPER GEAR	
70	3-395-211-01	EJECT SPRING	
71	A-3242-644-A	(Italian)...FRONT CABINET ASSY	
	A-3242-645-A	(AEP).....FRONT CABINET ASSY	
72	3-395-205-01	KNOB VOL	
73	*3-395-223-01	WHEEL DRUM	
74	*3-395-221-01	HOLDER TUNING	
75	*3-395-222-01	KNOB TUNING	

No.	Part No.	Description	Remarks
76	*3-395-217-01	P/T BRACKET	
77	3-395-216-01	RECORD SPRING	
78	4-812-554-00	WASHER	
79	3-395-239-01	BATTERY SPRING	
80	*3-395-238-01	BATTERY HOUSING	
81	*3-395-225-01	EQ CHASSIS	
82	3-395-263-01	FUSE COVER	
85	7-621-255-35	SCREW +P 2X5	
86	3-395-215-01	SCREW +BVTP 3X30	
87	7-682-548-04	SCREW +B 3X8	
88	7-685-133-19	SCREW +P 2.6X6 TYPE1	
90	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
91	3-395-254-01	BATTERY PLATE	
92	7-685-648-79	SCREW +BVTP 3X12 TYPE2 N-S	
94	7-685-651-79	SCREW +BVTP 3X20 TYPE2 N-S	
95	7-685-248-19	SCREW +KTP 3X12 TYPE2 NON-SLIT	
96	*3-354-307-01	(AEP).....LABEL, MODEL NUMBER	
	*3-354-308-01	(Italian)...LABEL, MODEL NUMBER	
97	3-395-258-01	KNOB FINE TUNING	
903	*1-631-438-11	PC BOARD, LED	
904	*1-631-437-11	PC BOARD, POWER	
907	*1-574-906-11	CONNECTOR ASSY	
908	*1-533-228-11	HOLDER, FUSE	
ANT1	1-501-443-11	ANTENNA, TELESCOPIC	
F2	⚠1-532-285-00	FUSE, TIME-LAG (1.250A)	

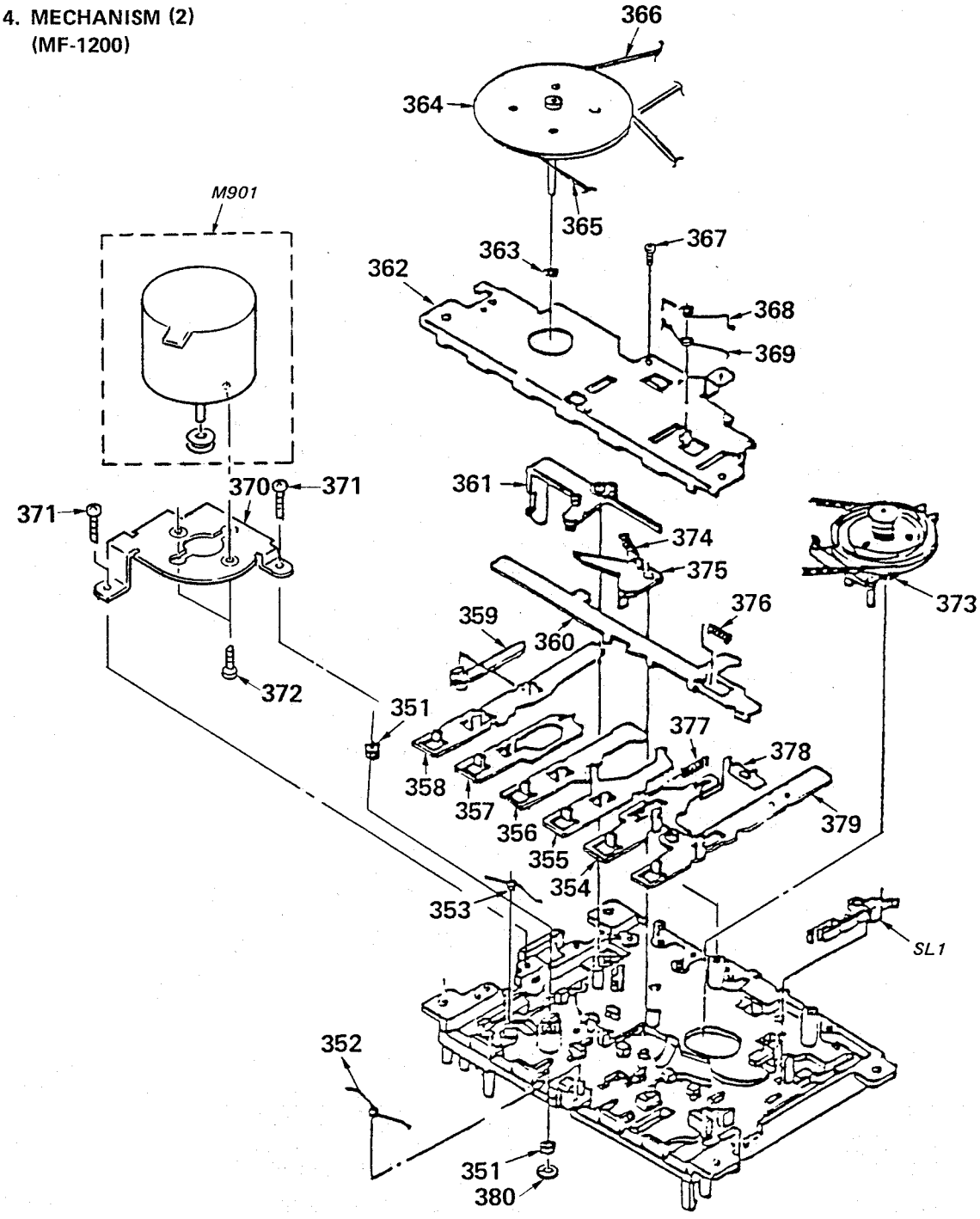
3. MECHANISM (1)
(MF-1200)



No.	Part No.	Description	Remarks
301	4-894-969-01	N WASHER	
302	3-391-055-01	E HEAD ARM	
304	4-895-016-01	TAPE GUIDE	
305	4-894-956-01	TAPE SENSOR	
306	4-894-955-01	C SPRING	
307	3-390-823-01	WASHER, F	
308	3-390-817-01	LUG	
309	7-621-255-55	SCREW, TOTSU P 2X8	
310	7-621-255-15	SCREW +P 2X3	
311	3-390-821-01	SPACER	
312	3-391-078-01	PINCH SPRING	
313	4-895-015-01	HEAD BASE	
314	4-894-962-01	IDLER ARM	
315	4-894-961-01	IDLER GEAR	
316	4-894-960-01	BUSH	
318	4-894-954-01	C SPRING	
319	4-894-953-01	S REEL	

No.	Part No.	Description	Remarks
320	3-391-054-01	BUSH B	
321	X-3391-004-1	T REEL ASSY	
322	4-894-964-01	F GEAR	
323	X-3391-001-1	PINCH ARM ASSY	
325	4-894-966-01	SPRING	
326	4-894-967-01	SPRING	
327	*3-391-043-01	CHASSIS	
328	7-685-133-14	SCREW +P 2.6X6 TYPE2 NON-SLIT	
329	*3-391-082-01	HOLDER BUTTON L	
330	*3-391-081-01	HOLDER BUTTON R	
331	7-621-770-67	SCREW, TOTSU PTTWH 2.6X6	
332	3-393-310-01	KNOB BASE	
333	*3-391-080-01	SHAFT C	
334	3-391-079-01	E RING	
HE101	1-543-533-11	HEAD, E (ERASE)	
HRP101	1-543-424-21	HEAD, MAGNETIC (REC/PB)	
SL2	1-571-990-11	SWITCH, LEAF	

4. MECHANISM (2)
(MF-1200)



No.	Part No.	Description	Remarks
351	*3-391-067-01	METAL	
352	4-894-999-01	SPRING	
353	4-894-989-01	SPRING	
354	*3-391-053-01	PLAY LEVER	
355	*3-391-051-01	REW LEVER	
356	*3-391-052-01	FF LEVER	
357	*4-894-987-01	S.E LEVER	
358	*4-894-986-01	PAUSE LEVER	
359	4-894-985-01	PAUSE ARM	
360	4-894-984-01	FUNCTION LEVER	
361	*4-894-980-01	EJECT ARM	
362	*4-894-977-01	BACK PLATE	
363	4-894-976-01	P WASHER	
364	X-3391-002-1	FLYWHEEL ASSY	
365	3-395-203-01	MAIN BELT	
366	3-390-816-01	BELT, SQUARE	

No.	Part No.	Description	Remarks
367	3-390-822-01	BUSHING (C)	
368	4-894-978-01	SPRING	
369	4-894-979-01	SPRING	
370	*3-395-202-01	MOTOR PLATE	
371	7-621-255-25	SCREW +PTT 2X4	(S)
372	7-628-253-90	SCREW +PS 2.6X4	
373	X-3391-003-1	POWER ARM ASSY	
374	3-390-809-01	SPRING	
375	4-894-982-01	S ARM	
376	4-894-983-01	C SPRING	
377	3-390-827-01	SPRING	
378	3-390-811-01	LEVER, REC STOP	
379	*4-894-994-01	REC LEVER	
380	3-701-437-01	WASHER (T=0.13)	
M901	3-395-201-01	MOTOR ASSY	
SL1	1-570-715-11	SWITCH, LEAF	

SECTION 5
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF: μF, PF: μμF.

RESISTORS
- All resistors are in ohms.
- F: nonflammable

COILS
- MMH: mH, UH: μH

SEMICONDUCTORS
In each case, U: μ, for example:
UA...: μA..., UPA...: μPA...,
UPC...: μPC, UPD...: μPD...

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref.No.	Part No.	Description			
901	1-574-914-11	CORD, SPEAKER			
903	*1-631-438-11	PC BOARD, LED			
904	*1-631-437-11	PC BOARD, POWER			
907	*1-574-906-11	CONNECTOR ASSY			
908	*1-533-228-11	HOLDER, FUSE			
ANT1	1-501-443-11	ANTENNA, TELESCOPIC			
BPF	1-236-008-11	FILTER, BAND PASS			
C1	1-161-494-00	CERAMIC	0.022MF		25V
C2	1-161-494-00	CERAMIC	0.022MF		25V
C4	1-161-379-00	CERAMIC	0.01MF	30%	16V
C6	1-102-106-00	CERAMIC	100PF	10%	50V
C7	1-102-106-00	CERAMIC	100PF	10%	50V
C8	1-162-282-31	CERAMIC	100PF	10%	50V
C10	1-162-282-31	CERAMIC	100PF	10%	50V
C11	1-124-443-00	ELECT	100MF	20%	10V
C12	1-124-443-00	ELECT	100MF	20%	10V
C101	1-102-953-00	CERAMIC	18PF	5%	50V
C102	1-102-959-00	CERAMIC	22PF	5%	50V
C103	1-102-959-00	CERAMIC	22PF	5%	50V
C104	1-102-961-00	CERAMIC	27PF	5%	50V
C106	1-161-494-00	CERAMIC	0.022MF		25V
C108	1-102-963-00	CERAMIC	33PF	5%	50V
C109	1-126-233-11	ELECT	22MF	20%	25V
C110	1-161-494-00	CERAMIC	0.022MF		25V
C111	1-161-494-00	CERAMIC	0.022MF		25V
C112	1-130-472-00	MYLAR	0.0012MF	5%	50V
C113	1-124-791-11	ELECT	1MF	20%	50V
C114	1-102-116-00	CERAMIC	680PF	10%	50V
C115	1-124-902-00	ELECT	0.47MF	20%	50V
C116	1-124-902-00	ELECT	0.47MF	20%	50V
C117	1-124-791-11	ELECT	1MF	20%	50V
C118	1-130-471-00	MYLAR	0.001MF	5%	50V
C119	1-162-294-31	CERAMIC	0.001MF	10%	50V
C120	1-162-294-31	CERAMIC	0.001MF	10%	50V
C121	1-124-902-00	ELECT	0.47MF	20%	50V
C122	1-124-902-00	ELECT	0.47MF	20%	50V
C123	1-124-443-00	ELECT	100MF	20%	10V
C124	1-124-443-00	ELECT	100MF	20%	10V
C125	1-130-474-00	MYLAR	0.0018MF	5%	50V
C126	1-130-474-00	MYLAR	0.0018MF	5%	50V
C201	1-102-106-00	CERAMIC	100PF	10%	50V
C202	1-102-947-00	CERAMIC	10PF	0.5PF	50V
C204	1-101-884-00	CERAMIC	56PF	5%	50V
C205	1-102-947-00	CERAMIC	10PF	0.5PF	50V
C206	1-102-935-00	CERAMIC	2PF	0.25PF	50V
C301	1-162-294-31	CERAMIC	0.001MF	10%	50V
C302	1-124-902-00	ELECT	0.47MF	20%	50V
C305	1-124-446-11	ELECT	47MF	20%	10V
C306	1-130-489-00	MYLAR	0.033MF	5%	50V
C308	1-124-902-00	ELECT	0.47MF	20%	50V
C309	1-102-118-00	CERAMIC	0.0012MF	10%	50V
C310	1-161-375-00	CERAMIC	0.0022MF	30%	16V
C311	1-123-875-11	ELECT	10MF	20%	50V
C312	1-126-233-11	ELECT	22MF	20%	25V
C313	1-124-443-00	ELECT	100MF	20%	10V
C314	1-124-902-00	ELECT	0.47MF	20%	50V
C351	1-162-294-31	CERAMIC	0.001MF	10%	50V
C352	1-124-902-00	ELECT	0.47MF	20%	50V
C355	1-124-446-11	ELECT	47MF	20%	10V
C356	1-130-489-00	MYLAR	0.033MF	5%	50V
C358	1-124-902-00	ELECT	0.47MF	20%	50V
C359	1-102-118-00	CERAMIC	0.0012MF	10%	50V
C360	1-161-375-00	CERAMIC	0.0022MF	30%	16V
C364	1-124-902-00	ELECT	0.47MF	20%	50V
C371	1-130-473-00	MYLAR	0.0015MF	5%	50V
C373	1-124-446-11	ELECT	47MF	20%	10V
C374	1-130-481-00	MYLAR	0.0068MF	5%	50V
C375	1-162-294-31	CERAMIC	0.001MF	10%	50V
C376	1-161-375-00	CERAMIC	0.0022MF	30%	16V
C401	1-124-443-00	ELECT	100MF	20%	10V
C402	1-124-902-00	ELECT	0.47MF	20%	50V
C403	1-130-491-00	MYLAR	0.047MF	5%	50V
C404	1-124-791-11	ELECT	1MF	20%	50V
C405	1-130-484-00	MYLAR	0.012MF	5%	50V
C406	1-124-252-00	ELECT	0.33MF	20%	50V
C407	1-130-477-00	MYLAR	0.0033MF	5%	50V
C408	1-130-495-00	MYLAR	0.1MF	5%	50V
C409	1-130-471-00	MYLAR	0.001MF	5%	50V
C410	1-130-488-00	MYLAR	0.027MF	5%	50V
C411	1-130-485-00	MYLAR	0.015MF	5%	50V
C412	1-130-474-00	MYLAR	0.0018MF	5%	50V
C413	1-124-902-00	ELECT	0.47MF	20%	50V
C414	1-124-902-00	ELECT	0.47MF	20%	50V
C452	1-124-902-00	ELECT	0.47MF	20%	50V
C453	1-130-491-00	MYLAR	0.047MF	5%	50V
C454	1-124-791-11	ELECT	1MF	20%	50V
C455	1-130-484-00	MYLAR	0.012MF	5%	50V
C456	1-124-252-00	ELECT	0.33MF	20%	50V

Ref.No.	Part No.	Description			
C457	1-130-477-00	MYLAR	0.0033MF	5%	50V
C458	1-130-495-00	MYLAR	0.1MF	5%	50V
C459	1-130-471-00	MYLAR	0.001MF	5%	50V
C460	1-130-488-00	MYLAR	0.027MF	5%	50V
C461	1-130-485-00	MYLAR	0.015MF	5%	50V
C462	1-130-474-00	MYLAR	0.0018MF	5%	50V
C463	1-124-902-00	ELECT	0.47MF	20%	50V
C464	1-124-902-00	ELECT	0.47MF	20%	50V
C501	1-124-902-00	ELECT	0.47MF	20%	50V
C502	1-124-443-00	ELECT	100MF	20%	10V
C503	1-126-176-11	ELECT	220MF	20%	10V
C504	1-161-375-00	CERAMIC	0.0022MF	30%	16V
C505	1-124-443-00	ELECT	100MF	20%	10V
C506	1-124-472-11	ELECT	470MF	20%	10V
C507	1-130-497-00	MYLAR	0.15MF	5%	50V
C508	1-126-103-11	ELECT	470MF	20%	16V
C509	1-126-103-11	ELECT	470MF	20%	16V
C551	1-124-902-00	ELECT	0.47MF	20%	50V
C552	1-124-443-00	ELECT	100MF	20%	10V
C554	1-161-375-00	CERAMIC	0.0022MF	30%	16V
C555	1-124-443-00	ELECT	100MF	20%	10V
C556	1-124-472-11	ELECT	470MF	20%	10V
C557	1-130-497-00	MYLAR	0.15MF	5%	50V
C901	1-101-004-00	CERAMIC	0.01MF		50V
C902	1-101-004-00	CERAMIC	0.01MF		50V
C903	1-101-004-00	CERAMIC	0.01MF		50V
C904	1-101-004-00	CERAMIC	0.01MF		50V
C905	1-124-556-11	ELECT	2200MF	20%	16V
C907	1-124-473-11	ELECT	1000MF	20%	10V
CF1	1-567-415-11	FILTER, CERAMIC (FM)(10.7MHz)			
CF2	1-527-870-00	FILTER AM (455kHz)			
CH101	1-412-242-11	COIL 10UH			
CNP101	*1-568-620-11	CONNECTOR 4P			
CNP801	*1-568-620-11	CONNECTOR 4P			
CNP802	*1-568-620-11	CONNECTOR 4P			
CS201	1-103-707-00	POLYSTYRENE	180PF	5%	50V
CS202	1-104-066-00	POLYSTYRENE	360PF	5%	50V
CS203	1-103-737-00	POLYSTYRENE	0.0033MF	5%	50V
VCT1-4 CV1-4	1-151-559-11	CAP, VAR, POLYETHYLENE			
D101	8-719-912-20	DIODE 1SS120			
D102	8-719-911-06	DIODE 1SS106			
D901	8-719-200-02	DIODE 10E2			
D902	8-719-200-02	DIODE 10E2			
D903	8-719-200-02	DIODE 10E2			
D904	8-719-200-02	DIODE 10E2			
D905	8-719-160-34	DIODE RD6.8FB2			
F2	⚠1-532-285-00	FUSE, TIME-LAG (1.250A)			
FTC1	1-141-413-11	TRIMMER (FINE TUNING) SW			
HE101	1-543-533-11	HEAD, E (ERASE)			
HRP101	1-543-424-21	HEAD, MAGNETIC (REC/PB)			
IC101	8-759-234-60	IC TA8167N			
IC301	8-759-942-24	IC BA3312N			
IC401	8-759-933-38	IC BA3822LS			
IC501	8-759-205-82	IC TA7282AP			

Ref.No.	Part No.	Description			
J301	1-568-705-11	JACK (EXT MIC)			
J351	1-568-705-11	JACK (EXT MIC)			
J501	1-507-806-00	JACK (PHONES)			
J901	⚠1-540-110-11	SOCKET, AC			
L101	*1-428-040-11	COIL, AIR-CORE (FM RF)			
L102	*1-428-039-11	COIL, AIR-CORE (FM OSC)			
L201	1-402-474-11	ANTENNA, FERRITE-ROD (LW)			
L202	1-402-474-11	ANTENNA, FERRITE-ROD (MW)			
L203	1-402-270-11	COIL, SW ANTENNA			
LED1	8-719-915-45	DIODE SLP162B (FM STEREO)			
LED2	8-719-915-45	DIODE SLP162B (OPR/BATT)			
M901	3-395-201-01	MOTOR ASSY			
PT901	⚠1-449-876-11	TRANSFORMER, POWER			
Q371	8-729-923-22	TRANSISTOR KSC900-L			
R1	1-249-401-11	CARBON	47	5%	1/4W
R2	1-249-427-11	CARBON	6.8K	5%	1/4W
R101	1-249-429-11	CARBON	10K	5%	1/4W
R102	1-249-397-11	CARBON	22	5%	1/4W
R103	1-249-409-11	CARBON	220	5%	1/4W
R104	1-249-426-11	CARBON	5.6K	5%	1/4W
R107	1-249-419-11	CARBON	1.5K	5%	1/4W
R108	1-249-417-11	CARBON	1K	5%	1/4W
R109	1-249-430-11	CARBON	12K	5%	1/4W
R110	1-249-441-11	CARBON	100K	5%	1/4W
R111	1-249-441-11	CARBON	100K	5%	1/4W
R112	1-249-417-11	CARBON	1K	5%	1/4W
R113	1-249-405-11	CARBON	100	5%	1/4W
R114	1-247-891-00	CARBON	330K	5%	1/4W
R115	1-249-399-11	CARBON	33	5%	1/4W
R164	1-247-891-00	CARBON	330K	5%	1/4W
R204	1-249-399-11	CARBON	33	5%	1/4W
R205	1-247-891-00	CARBON	330K	5%	1/4W
R300	1-249-415-11	CARBON	680	5%	1/4W
R301	1-249-417-11	CARBON	1K	5%	1/4W
R302	1-249-403-11	CARBON	68	5%	1/4W
R303	1-249-424-11	CARBON	3.9K	5%	1/4W
R304	1-249-426-11	CARBON	5.6K	5%	1/4W
R305	1-249-430-11	CARBON	12K	5%	1/4W
R306	1-249-422-11	CARBON	2.7K	5%	1/4W
R307	1-247-895-00	CARBON	470K	5%	1/4W
R308	1-249-405-11	CARBON	100	5%	1/4W
R309	1-249-430-11	CARBON	12K	5%	1/4W
R310	1-247-881-00	CARBON	120K	5%	1/4W
R311	1-249-405-11	CARBON	100	5%	1/4W
R350	1-249-415-11	CARBON	680	5%	1/4W
R351	1-249-417-11	CARBON	1K	5%	1/4W
R352	1-249-403-11	CARBON	68	5%	1/4W
R353	1-249-424-11	CARBON	3.9K	5%	1/4W
R354	1-249-426-11	CARBON	5.6K	5%	1/4W
R355	1-249-430-11	CARBON	12K	5%	1/4W
R356	1-249-422-11	CARBON	2.7K	5%	1/4W
R359	1-249-430-11	CARBON	12K	5%	1/4W
R360	1-247-881-00	CARBON	120K	5%	1/4W

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref.No.	Part No.	Description				
R361	1-249-405-11	CARBON	100	5%	1/4W	
R371	1-249-405-11	CARBON	100	5%	1/4W	
R372	1-249-437-11	CARBON	47K	5%	1/4W	
R373	1-249-404-00	CARBON	82	5%	1/4W	
R401	1-249-409-11	CARBON	220	5%	1/4W	
R402	1-249-410-11	CARBON	270	5%	1/4W	
R403	1-249-414-11	CARBON	560	5%	1/4W	
R404	1-249-410-11	CARBON	270	5%	1/4W	
R405	1-249-430-11	CARBON	12K	5%	1/4W	
R452	1-249-410-11	CARBON	270	5%	1/4W	
R453	1-249-414-11	CARBON	560	5%	1/4W	
R454	1-249-410-11	CARBON	270	5%	1/4W	
R455	1-249-430-11	CARBON	12K	5%	1/4W	
R501	1-249-417-11	CARBON	1K	5%	1/4W	
R502	1-249-404-00	CARBON	82	5%	1/4W	
R503	1-249-405-11	CARBON	100	5%	1/4W	
R504	1-249-412-11	CARBON	390	5%	1/4W	
R505	1-249-418-11	CARBON	1.2K	5%	1/4W	
R551	1-249-417-11	CARBON	1K	5%	1/4W	
R552	1-249-404-00	CARBON	82	5%	1/4W	
R553	1-249-405-11	CARBON	100	5%	1/4W	
R901	1-215-862-11	METAL OXIDE	68	5%	1W	F
RV401	1-238-184-11	RES, VAR, SLIDE 50K/50K (10kHz)				
RV402	1-238-184-11	RES, VAR, SLIDE 50K/50K (3kHz)				
RV403	1-238-184-11	RES, VAR, SLIDE 50K/50K (1kHz)				
RV404	1-238-184-11	RES, VAR, SLIDE 50K/50K (300Hz)				
RV405	1-238-184-11	RES, VAR, SLIDE 50K/50K (100Hz)				
S1	1-571-991-11	SWITCH, LEVER SLIDE (FUNCTION)				
S2	1-571-691-11	SWITCH, LEVER (BAND)				
S3	1-571-994-11	SWITCH, SLIDE (REC/PB)				
S4	1-571-993-11	SWITCH, SLIDE (FM MODE/ISS)				
SL1	1-570-715-11	SWITCH, LEAF				
SL2	1-571-990-11	SWITCH, LEAF				
SP401	1-503-661-11	SPEAKER				
SP402	1-529-051-11	BUZZER				
SP451	1-503-661-11	SPEAKER				
SP452	1-529-051-11	BUZZER				
SVR101	1-238-496-11	RES, ADJ, CARBON 10K (VCO)				

Ref.No.	Part No.	Description
T101	1-403-872-00	I.F.T CONVERTER FM (SMALL TYPE)
T102	1-404-676-11	TRANSFORMER, FM DETECTOR
T201	1-404-551-11	IFT (AM)
T371	1-433-353-11	TRANSFORMER, BIAS OSCILLATION
TC202	1-141-414-11	TRIMMER, CERAMIC (LW OSC)
TC203	1-141-414-11	TRIMMER, CERAMIC (SW OSC)
TC204	1-141-414-11	TRIMMER, CERAMIC (LW ANT)
TM501	1-537-234-11	TERMINAL BOARD (SP)
TO201	1-406-224-11	COIL, OSCILLATOR (LW)
TO202	1-406-367-11	COIL, OSCILLATOR (MW)
TO203	1-406-226-11	COIL, OSCILLATOR (SW)
VR501	1-238-644-11	RES, VAR, SLIDE 50K (BALANCE)
VR502	1-238-643-11	RES, VAR, CARBON 50K/50K (VOLUME)

ACCESSORY & PACKING MATERIAL

⚠	1-555-234-00	CORD, POWER
*	3-352-958-01	INDIVIDUAL CARTON
*	3-395-249-01	CUSHION TOP
*	3-395-250-01	CUSHION BOTTOM
	3-750-076-11	(AEP)...MANUAL, INSTRUCTION
	3-750-076-41	MANUAL, INSTRUCTION

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